REMARKS/ARGUMENTS

Claims 3-7, 9-17 and 19-21 are pending in the present application.

This Amendment is in response to the Final Office Action mailed November 14, 2008. In the Final Office Action, the Examiner rejected claims 3-10, 12, 13, 15-17 and 19-21 under 35 U.S.C. §102(b) and claims 11 and 14 under 35 U.S.C. §103(a). Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Claims Rejected Under 35 U.S.C. § 102

Claims 3-10, 12, 13, 15-17, and 19-21 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,902,096 to Behringer et al. ("Behringer"). A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP § 2131. Applicant respectfully submits that each and every element in claim 19 and its respective dependent claims is not set forth in the cited reference.

Independent claim 19 includes the limitation of:

A pump comprising:
a housing, a cavity with opposing surfaces,
an inlet port opening into the cavity,
an outlet port opening from the cavity,
a pressure port connected to the cavity,
a bi-stable flexible membrane located within the cavity,
wherein the flexible membrane being mounted within the housing and a pre-set is applied to the flexible membrane such that the membrane adopts a first stable state in contact with one of the opposing surfaces of the cavity and is invertible into a second stable state by the application of pressure to the cavity via the pressure port, wherein the bi-stable membrane is movable between the first and second stable states,
and wherein the first and second stable states correspond to completion of inlet and exhaust of a pumping cycle, respectively.

The Examiner's objection is founded on a misinterpretation of the term "stable". The Examiner maintains that, in the present invention, the term "stable state" means a state which corresponds to completion of either an intake or exhaust cycle of the pump. In the pump of the present invention, the stable states do correspond to completion of either an intake or exhaust cycle of the pump. However, this is not what makes those states "stable states". Claims 19 and 21 have been amended to clarify this distinction.

In the ordinary meaning in the present invention, "stable state" means a state which the membrane would adopt, or in which the membrane would rest, in the absence of applied pressure. This is what defines the state as a stable state. Although the term "stable state" is not explicitly defined in the specification, as clearly stated in the specification at page 8, beginning at line 1, the membrane 14 is bi-stable with "One stable position of the membrane 14 is shown in full detail in Figure 1 while the other stable position is shown in dotted detail." Further, as stated at page 8, beginning at line 11, and continuing to page 9, line 2:

> The membrane 14 is moved between its two stable positions by application of negative P1 and positive P2 pressures applied to the cavity 13b through the port 22. Consequently, with the pump in the configuration shown in Figure 1 and inlet and outlet conduits or lines attached to connectors 31 and 32 a positive pressure P2 (see Figure 5) applied through port 22 will force the membrane 14 into an opposite stable position. In this "stroke" of the membrane 14, the inlet valve 24 is forced closed while the outlet valve 25 is forced open and any fluid within the cavity 13 i.e. to that side of the membrane opposite to that which faces port 22, is exhausted through the outlet valve 25.
>
> Upon this "stroke" having been completed a negative pressure P1 applied via port 22 (see Figure 6) causes the membrane 14 to return to the position shown in Figure 1 which also causes the exhaust valve 25 to close but the inlet valve 24 to open and enable fluid in the inlet line to be drawn into cavity 13. The cavity 13 thus fills with the fluid ready to be exhausted through the outlet valve 25 upon the next cycle occurring when membrane 14 moves back into cavity section 13a under positive pressure P2.
>
> The means for applying negative and positive pressures can take on many forms as will be apparent to the person skilled in the art. The means could comprise, for example, sources of positive and negative pressure, which via suitable valves can be coupled to the port 22.

From this description, a person skilled in the field of the invention would recognize that when the membrane is in one of its two stable states, although positive or negative pressure is applied to move the membrane into one of the two stable states, in the absence of applied pressure (positive or negative), the membrane will stay in one of the two stable states.

In the configuration of the pump of the present invention, there are two stable states and the membrane is described as "bi-stable". The pump membrane is driven between these two stable states by applied pressure.

In contrast, Behringer's membrane has only a single stable state; i.e., the central, neutral state which the membrane will assume in the absence of applied pressure. Behringer's member is therefore not bi-stable. The single stable state of Behringer's membrane does not correspond to completion of either an intake or exhaust cycle of the pump. Behringer's membrane is drive between a first unstable state corresponding to completion of an intake cycle and a second unstable state corresponding to completion of an exhaust cycle.

In addition, Behringer discloses that the membrane is stretched through the cavity, such that forces within the membrane tend to force the membrane into the central, neutral state.

As such, Behringer does not disclose each and every limitation of independent claims 19 and 21, namely, the limitations discussed in detail above. Claim 21, as amended, has similar claim limitations as amended claim 19. Dependent claims 3-10, 12, 13, 15-17 and 20 depend on independent claim 19 and therefore include all of the limitations thereof. Accordingly, Applicant respectfully requests that the Patent Office withdraw the rejection of claims 3-10, 12, 13, 15-17 and 19-21 under 35 U.S.C. §102(b) as anticipated by Behringer.

Rejection Under 35 U.S.C. § 103

In the Final Office Action, the Examiner rejected claim 11 under 35 U.S.C. §103(a) as being unpatentable over Behringer et al. ("Behringer") in view of U.S. Patent No. 3,947,156

issued to Becker ("Becker"). Applicant respectfully traverses the rejection and submits that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

Since claim 11 depends from claim 19 which, for the reasons noted above, is patentably distinguishable over the prior art of record and since Becker does not provide the teachings missing from Behringer, Applicant submits that the pending claim, namely claim 11 is also in condition for allowance. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §103(a) be withdrawn.

In the Office Action, the Examiner also rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over Behringer et al. ("Behringer") in view of U.S. Patent No. 3,947,156 issued to Dilworth ("Dilworth").

Since claim 14 depends from claim 19 which, for the reasons noted above, is patentably distinguishable over the prior art of record, and since Dilworth does not provide the teachings missing from Behringer, Applicant submits that the pending claim, namely claim 14 is also in condition for allowance. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §103(a) be withdrawn.

Therefore, Applicant believes that all pending claims are now patentable over the cited references.

CONCLUSION

Accordingly, from the amendments and remarks, Applicant believes that all of the pending claims, namely Claims 3-7, 9-17 and 19-21 are now in condition for allowance, which early action is requested.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

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I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below

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Marilyn Bass February 17, 2009